αmeter

Installing & connecting the DCCconcepts Alpha Meter

The Alpha Meter is designed to be panel mounted on the fascia or layout control panel.

The front plate of the Alpha Meter is the same height as the DCCconcepts Alpha "Layout Panel" so they will look very smart when they are mounted together on the front of your layout.

You will find an easily to use mounting template & relevant dimensions on the rear of this page.

We have also provided the correct screws for mounting.

Connections:

The Alpha Meter should be connected between the control system and the track or, if you have a DCC controlled layout, the layout power / track bus.

Ideally it should be placed close to the area being monitored in order to more accurately report the voltage delivered and the current (Amps) being used.

The connections are all clearly marked.

There are two input and two output connections. We have used pluggable connectors with screw terminals to make adding the wiring both easy and completely solder-free.

General specifications and information

The Alpha Meter is designed for use on standard model railway voltages (see the ranges for each form of power which are detailed on the product backing card and rear of this guide).

We have adjusted the reading of all ranges so the very small load added by the meter itself is ignored, so you will see the actual "model railway related" figures very accurately.

NOTE: *Unless the layout area being monitored is under load you will not see a real-world result. So, if layout wiring is under test, we suggest you make a "dummy load" with an incandescent*

Features and use of the DCCconcepts Alpha Meter

DC Volts and Amps: High accuracy range is 5~29v. 10A max. (LED will glow GREEN)

These are the actual voltage and power (Amps) being consumed by your railway.

If the DC is pure DC, then the voltage readings you see will be actual DC Volts.

If your DC controller, like most model railway controllers currently available, does not output pure DC, then the meter will show you the average DC voltage automatically.

Note: the DC reading ability is polarity sensitive in order to preserve the best possible accuracy and the meter will not turn on unless the DC voltage polarity is correct. (If the connection is correct but the meter does not operate on DC, change the "Direction" switch)

DCC Volts and Amps: High accuracy range is 5~29V. 10A Maximum (LED will glow BLUE)

DCC power is delivered to your layout as a very complex wave form called a square wave. A square wave is composed of many frequencies all at once. (DCC is in fact not truly a form of AC as many think because of this. It is much more complicated than AC).

Because of this very complex waveform, normal meters just cannot read DCC properly.

Alpha Meter has been designed specifically to read this wave form accurately and it is the most accurate DCC meter available. The DCC connection is not polarity sensitive.

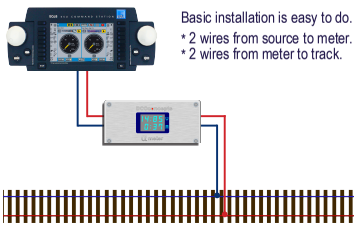
AC Volts and Amps: Up to 20.5V AC maximum. 7A Maximum (The LED will glow RED)

AC is a simple sine wave and actually has two possible readings - the peak voltage and the "usable average" or RMS voltage which is what your models see when they operate.

Your Alpha Meter will therefore always display the true RMS AC voltage level.

True RMS voltage as measured with conventional AC is the sine wave peak voltage multiplied by 0.707 (or about 71% of the AC sine wave peak voltage)

Note: *the DCC or AC connections are not polarity sensitive but DO match the in and out connections as shown.*



Basic installation is easy to do.
* 2 wires from source to meter.
* 2 wires from meter to track.

αmeter

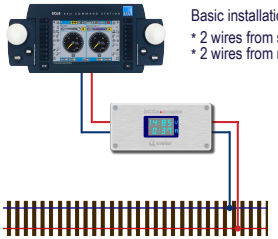
Installing your Alpha Meter

The Template: Position the template and use it as a cutting and drilling guide. Take your time & make sure it is properly aligned before you cut or drill.

Mounting: Use the screws provided to fix your meter

Tools: Use a jigsaw or "drill & file" to cut the meter hole. Use a 2mm drill to prepare holes for screws.

Connection: The connectors can be unplugged to make wiring easy. Connections are clearly marked.



Basic installation is easy to do.

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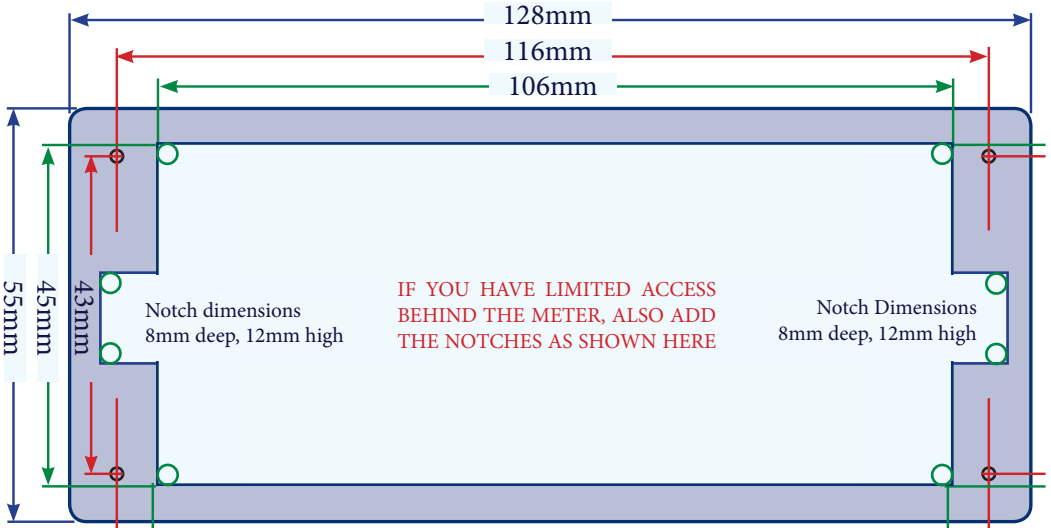
DCC concepts thinking outside the square

The Alpha Meter has been designed to be a very accurate way to measure and monitor the power delivered to and consumed by your model railway. Alpha Meter is not desgned for mains use. Please note the limits of voltage and current that are clearly marked on both the packaging and the reverse side of this manual. Accuracy is 1/100th of a volt or amp if used within recommended ranges.



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